

Remarks/Arguments:

An interview was conducted between Applicants' representatives and the Examiner on August 5, 2008. During the interview, Applicants' representatives explained that none of the references cited by the Examiner in the Office Action, nor any combination of those references, teaches the arrangement of densities of non-woven fabric disclosed in Applicants' claims. Specifically, Applicants' representatives explained that none of the references cited by the Examiner, either alone or combination, discloses the feature of "the density of the non-woven fabric in the inside layer is lower than the density of the non-woven fabric in each of the surface layers," as claimed in Applicants' claim 37. At the time of the interview, the Examiner did not identify disclosure in any of the references that teaches laminated non-woven fabric layers arranged such that the surface layers have a higher density than the inside layer, as required. Thus, Applicants respectfully traverse the Examiner's rejections as follows.

Applicants' disclosure is directed to a clad board for forming circuitry. As shown in Applicants' FIG. 1B, for example, the clad board relevantly includes a prepreg sheet 1 formed from a non-woven fabric 6 disposed between flat resin layers 8 of impregnated resin 7.

Independent claims 37 and 76 stand rejected under 35 U.S.C. § 103(a) as obvious over Kawakita et al. (U.S. Patent No. 5,960,538), Gause et al. (U.S. Patent No. 3,895,158), Yuhas et al. (U.S. Patent No. 5,350,621) and Arlon Inc., "Non-Woven Aramid Reinforcements," March 27, 1995. It is respectfully submitted, however, that the claims are patentable over the art of record for the reasons set forth below.

Kawakita discloses a printed circuit board (PCB). As shown in FIG. 1, for example, the PCB relevantly includes a resin-impregnated fabric sheet 1 with first and second through holes formed therein. One of the through holes is filled with a first resin composition that contains electrically conductive particles. The other of the through holes is filled with a second resin composition that contains thermally conductive particles. The first through hole electrically connects top and bottom

surfaces of the PCB, and the second through hole facilitates heat radiation. See, e.g., col. 3, lines 27-60.

Gause discloses forming a relatively low cost high pressure laminate. The laminate is formed by disposing a resin-impregnated layer of cellulose fiber paper between layers of epoxy resin impregnated woven glass fiber fabric sheets and bonding the layers. See, e.g., col. 3, lines 15-38.

Yuhas discloses laminates of epoxy resin reinforced with glass fibers. The laminates have a coefficient of thermal expansion that matches the coefficient of thermal expansion of copper. See, e.g., Abstract.

Arlon discloses aramid reinforcements which may be used in circuit boards. The aramid reinforcements "are available in multiples and combinations of" thicknesses, which have corresponding basis weights (e.g., 0.9, 1.6 and 2.0). See page 8, last full paragraph, lines 5-7 and Table 7.

Applicants' invention, as recited by independent claim 37, includes a feature which is neither disclosed nor suggested by the art of record, namely:

... the fiber sheet comprises:

an inside layer having two faces and two surface layers ...

... wherein the density of the non-woven fabric in the inside layer is lower than the density of the non-woven fabric in each of the surface layers.

(Emphasis added). This feature is described, for example, in Applicants' specification at page 11, lines 7-13 and is illustrated in FIG. 2B. No new matter has been added.

The Examiner argues that Arlon discloses Applicants' feature of "the density of the non-woven fabric in the inside layer is lower than the density of the non-woven fabric in each of the surface layers." Specifically, the Examiner argues that "[t]he basis weights of the various styles when the thickness is accounted for result in layers of differing density." See Office Action at page 4, lines 15-16. Assuming *arguendo* that the basis weights of the various styles disclosed by Arlon, when thickness is accounted for, result in layers of differing density, Arlon still does not

disclose a specific arrangement of the styles within the laminated structure. More specifically, Arlon does not disclose the specific arrangement of styles disclosed in Applicants' claim 37, namely, "the density of the non-woven fabric in the inside layer is lower than the density of the non-woven fabric in each of the surface layers."

Kawakita, Gause, and Yuhas fail to make up for the deficiency of Arlon because none of them disclose the feature of "the density of the non-woven fabric in the inside layer is lower than the density of the non-woven fabric in each of the surface layers."

It is because Applicants include the feature of "the density of the non-woven fabric in the inside layer is lower than the density of the non-woven fabric in each of the surface layers" that the following advantages are achieved. First, short circuits are not formed between adjacent circuit patterns formed on the board. Second, adhesive force between metal foil and the resin layers increases, and adhesive strength of the circuit patterns to the board also increases.

Accordingly, for the reasons provided above, independent claim 37 is patentable over the art of record.

Independent claim 76, while not identical to independent claim 37, includes features similar to independent claim 37. Thus, independent claim 76 is patentable over the art of record for the reasons provided above.

Dependent claims 40, 59, 86, 96, 98-100, 104 and 105 include all features of independent claim 37 from which they depend, and dependent claims 84, 85, 87, 97 and 101-103 include all features of independent claim 76 from which they depend. Thus, dependent claims 40, 59, 84-87 and 96-105 are also patentable over the art of record for the reasons set forth above.

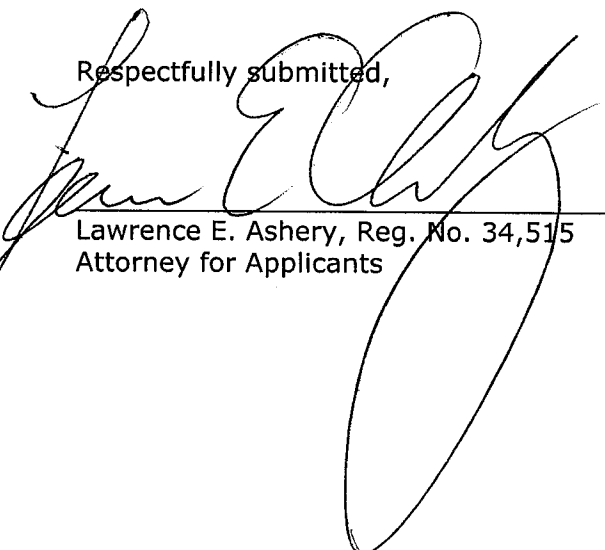
In view of the amendments and arguments set forth above, the above-

Application No.: 10/660,054
Amendment Dated: September 5, 2008
Reply to Office Action of: June 12, 2008

MAT-8260US1

identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,



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Dated: September 5, 2008

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